



News Release

Defense Advanced Research Projects Agency

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IMMEDIATE RELEASE

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DARPA IMMUNE BUILDING DEDICATION

Officials of the Defense Advanced Research Projects Agency (DARPA) and U.S. Army dedicated the Immune Building in a ribbon-cutting ceremony at Nord Hall, Fort Leonard Wood, Mo., today.

DARPA's Immune Building program is a research effort to develop, integrate, and demonstrate a system to protect buildings against chemical and biological warfare agent attack. This is the first-ever demonstration of an integrated system for building protection in an occupied building under real-world operating conditions.

The Immune Building system is capable of achieving high levels of protection for building occupants against the full spectrum of chemical and biological threats. Immune Building system sensors, filtration, and active controls are fully deployed throughout the building. The integrated Immune Building protective system includes passively running protection components, as well as countermeasures that are triggered by sensors in response to a threat agent release.

The objectives of the Immune Building are to protect human occupants by minimizing spread of aerosolized agent, to rapidly decontaminate and restore the building to function and to preserve forensic evidence concerning the source of the attack.

Passive Immune Building protection components, including filtration, architectural segmentation, and building over-pressurization will always be on and are part of normal building operations. These passive protection elements perform very well against threats that the sensor system is unable to detect.

When possible threats are detected by trigger sensors, the Immune Building system initiates low-impact active countermeasures. These active countermeasures can include airflow diversion, neutralization, or enhanced filtration. In tests using simulants, these countermeasures have been shown to be very effective in protecting against high release masses and reducing the impact of such attacks.

Confirmatory sensors determine if a threat actually exists and initiate additional protective measures such as evacuation. If an attack was determined to have occurred, commanders can then launch follow-on efforts to provide medical treatment for personnel and decontaminate the building.

The technologies and building protection architectures developed by the Immune Building program will ultimately be made available to the entire military community through the Building Protection Toolkit, a tool that assists in designing the next-generation of building protection systems.

The Building Protection Toolkit is a comprehensive building protection modeling/simulation, design, analysis, and cost assessment tool.

The Toolkit gives facility planners and designers the capability to incorporate building protection strategies into new buildings, and to retrofit such systems into existing facilities that require protection against potential chemical and biological agent attacks.

Building Protection Toolkit modeling and simulation capabilities enable planners and designers to run what-if scenarios to iterate towards the most effective Immune Building architecture for a given facility and within available resources.

DARPA plans to transition the Immune Building system to its military partner, U.S. Army Fort Leonard Wood in December 2006. Fort Leonard Wood plans to maintain ownership of the first fully operational Immune Building and support follow-on testing, operations, and maintenance. Fort Leonard Wood is considering using the system as a test platform for future technology developments and for training at the U.S. Army Chemical School.

Future Immune Building systems will make military buildings such as barracks, office buildings, and command and control centers much less desirable targets for chemical or biological attack.

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